

Claims

[c1] An isolated nucleic acid encoding a mammalian Bok protein.

[c2] The isolated nucleic acid according to Claim 1, wherein said Bok protein comprises the amino acid sequence as set forth in SEQ ID NO:2; SEQ ID NO:4, SEQ ID NO:6 or SEQ ID NO:8.

[c3] The isolated nucleic acid according to Claim 1, wherein said Bok protein is a BH3ⁱ variant protein.

[c4] An isolated nucleic acid comprising at least 18 contiguous nucleotides of the sequence of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5 or SEQ ID NO:7.

[c5] An isolated nucleic acid that hybridizes under stringent conditions to the nucleic acid sequence of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5 or SEQ ID NO:7.

[c6] An isolated nucleic acid encoding a BH3ⁱ variant of a pro-apoptotic Bok related protein.

[c7] The isolated nucleic acid of Claim 6, wherein said pro-apoptotic Bok related protein is Bak or Bax.

[c8] An expression cassette comprising a transcriptional initiation region functional in an expression host and operably linked to a nucleic acid having a sequence of the isolated nucleic acid according to Claim 1.

[c9] A cell comprising an expression cassette according to Claim 8 as part of an extrachromosomal element or integrated into the genome of a host cell as a result of introduction of said expression cassette into said host cell, and the cellular progeny of said host cell.

[c10] A method for producing pro-apoptotic protein, said method comprising: growing a cell according to Claim 9, whereby said protein is expressed; and isolating said protein free of other proteins.

[c11] A purified polypeptide composition comprising at least 50% of the protein

present as a Bok protein or a fragment thereof.

[c12] A purified polypeptide composition comprising at least 50% of the protein present as a BH3ⁱ variant of a pro-apoptotic Bok related protein.

[c13] A monoclonal antibody binding specifically to a Bok protein.

[c14] A non-human transgenic animal model for Bok gene function wherein said transgenic animal comprises an introduced alteration in a Bok gene.

[c15] A method of inducing apoptosis in a susceptible cell population, the method comprising:
upregulating expression of Bok or a BH3ⁱ variant of a pro-apoptotic Bok related protein in said cell population, wherein apoptosis is induced.

[c16] The method of Claim 15, wherein said susceptible cell population comprises reproductive tissue.

[c17] The method of Claim 15, wherein said upregulating step comprises induction of expression of an endogenous Bok gene.

[c18] The method of Claim 15, wherein said upregulating step comprises introduction and expression of an exogenous Bok coding sequence.

[c19] The method of Claim 15, wherein said upregulating step comprises introduction and expression of an exogenous coding sequence for a BH3ⁱ variant of a pro-apoptotic Bok related protein.

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